

What Is Claimed Is:

1. A radio frequency radiation suppressor for a magnetron, comprising
 - a) an inner sleeve member made of an electrical insulating material, and
 - b) an outer shell assembled to said inner sleeve member, said outer shell member being made of a material that absorbs radio-frequency radiation.
2. The radio frequency radiation suppressor set forth in Claim 1 comprising a metallic connector attached to the inner sleeve member for contacting the magnetron.
3. The radio frequency radiation suppressor of Claim 1 wherein the electrical insulating material is a machinable polymer.
4. The radio frequency radiation suppressor of Claim 3 wherein the electrical insulating material is polytetrafluoroethylene polymer.
5. The radio frequency radiation suppressor of Claim 1 wherein the radio-frequency radiation absorbing material is a composite material comprising a plurality of metal particles suspended in an resinous binder.
6. The radio frequency radiation suppressor of Claim 2 wherein the inner sleeve comprises a tab member for holding the metallic connector in place.
7. The radio frequency radiation suppressor of Claim 6 wherein the inner sleeve comprises a second tab member spaced from said tab member.
8. The radio frequency radiation suppressor of Claim 7 wherein the inner sleeve further comprises a third tab member spaced from said tab member and said second tab member.

9. The radio frequency radiation suppressor of Claim 2 wherein the inner sleeve has a recess for receiving the metallic connector, said recess being formed and dimensioned such that the metallic connector is prevented from contacting the outer shell.
10. The radio frequency radiation suppressor of Claim 1 further comprising an outer sleeve assembled to the exterior of the outer shell, said outer sleeve being formed of an electrical insulating material.
11. A method of making a radio frequency radiation suppressor for an industrial magnetron comprising the steps of:
 - forming an inner sleeve from an electrically insulating polymer material;
 - and
 - forming a radio-frequency radiation absorbing outer shell on the inner sleeve.
12. The method set forth in Claim 11 wherein the step of forming the radio-frequency radiation absorbing outer shell on the inner sleeve comprises the steps of:
 - placing a mold around the inner sleeve such that an annular spaced is formed around the exterior of the inner sleeve;
 - filling the annular space with a mixture of an iron-powder-containing resin and an activator/hardener;
 - curing the mixture until it hardens; and then
 - removing the mold.
13. The method set forth in Claim 11 wherein the step of forming the inner sleeve comprises machining the electrically insulating polymer material.
14. The method set forth in Claim 11 wherein the step of forming the inner sleeve comprises molding the electrically insulating polymer material.

15. The method set forth in Claim 11 wherein the step of forming the inner sleeve comprises the step of forming the inner sleeve from polytetrafluoroethylene.
16. A radio frequency radiation suppressor for a magnetron, comprising
 - a) an inner sleeve member made of an electrical insulating polymer material;
 - b) an outer shell assembled to said inner sleeve member, said outer shell member being made of a material that absorbs radio-frequency radiation; and
 - c) a metallic connector attached to the inner sleeve member for contacting the magnetron.
17. The radio frequency radiation suppressor of Claim 16 wherein said inner sleeve has a recess for receiving said metallic connector and is shaped such that said metallic connector does not contact said outer shell.
18. The radio frequency radiation suppressor of Claim 17 wherein the electrical insulating polymer material is polytetrafluoroethylene.
19. The radio frequency radiation suppressor of Claim 16 wherein the radio-frequency radiation absorbing material is a composite material comprising a plurality of metal particles suspended in an epoxy binder.
20. The radio frequency radiation suppressor of Claim 16 further comprising an outer sleeve assembled to the exterior of the outer shell, said outer sleeve being formed of the electrical insulating polymer material.